AIWA®

S/M Code No. 87-022
DATE OF ISSUE 5/1987-B

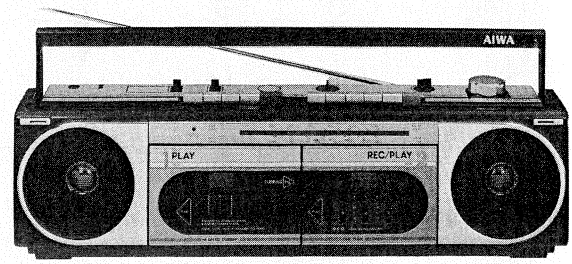
SERVICE MANUAL

MODEL NO. CS-W200

■STEREO RADIO CASSETTE RECORDER

■TYPE. HS, HWR, HB, UWR, CB, EWR, EB, KB, GS, GB, ZS, ZWR, ZB

■BASIC MECHANISM: TN-21VW



SPECIFICATIONS

Type Stereo multiband radio cassette recorder

Power source Batteries, DC 9 V (R20P×6)
CS-W200H
AC 110—120 V/220—240 V (switchable), 50—60 Hz
CS-W200U,C
AC 120 V, 60 Hz
CS-W200E,Z
AC 220 V, 50—60 Hz
CS-W200K,G
AC 240 V, 50—60 Hz

Output 7.6 W maximum (3.8W + 3.8W)
FTC Rule
2.2 watts per channel, Min. RMS at 2.6 ohms, from 200 Hz to 10 kHz, with no more than 10% Total Harmonic Distortion

Power consumption
CS-W200H 10 W
CS-W200U 8 W
CS-W200C 8 W
CS-W200E,Z 13 W
CS-W200K 16 W
CS-W200G 10 W

Speakers 100 mm cone type × 2

Radio Section

Frequency ranges
CS-W200H,G
FM: 87.5—108 MHz
MW: 530—1,605 kHz
SW_1: 2.3—7.0 MHz
SW_2: 7.0—22 MHz
CS-W200U,C
FM: 87.5—108 MHz
AM 530—1,605 kHz
CS-W200E,K,Z
FM: 87.5—108 MHz
SW: 5.9—18 MHz
MW: 530—1,605 kHz
LW: 150—285 kHz

Antennas
CS-W200H,G
Whip antenna for FM and SW_2
Ferrite bar antenna for MW and SW_1
CS-W200U,C
Whip antenna for FM
Ferrite bar antenna for AM
CS-W200E,K,Z
Whip antenna for FM and SW
Ferrite bar antenna for MW and LW

Dimensions (W×H×D) 492×150.5×139 mm (19-3/8"×6"×5-1/2")

Weight 3.4 kg (7.5 lbs)

Tape Recorder Section

Built-in microphone Electret condenser microphone
Tape speed 4.8 cm/sec (1-7/8 ips)
Recording system AC bias
Erasing system Magnet erase
Recording time 90 minutes (C-90 cassette, both directions)
Frequency response NORMAL tape: 40—12,000 Hz
CrO_2 tape: 40—14,000 Hz
METAL tape: 40—16,000 Hz

- Design and specifications are subject to change without notice.

AIWA Co., Ltd. Tokyo Japan

DISASSEMBLY INSTRUCTIONS

1. Front Cabinet Disassembly

1) Remove 7 screws. (See Figure-1)
2) Open the cassette lid and disassemble the front cabinet.

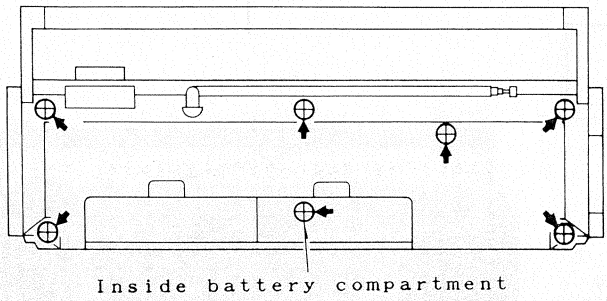


Fig. 1

2. Mechanism Disassembly

1) Lift the tuner rail in the arrow direction and remove 4 screws. (See Figure-2)

Note) Never overlift the tuner rail.

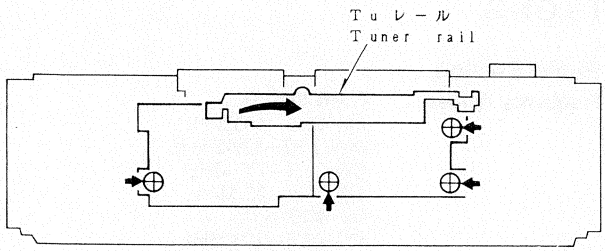


Fig. 2

3. Main Circuit Board Disassembly

1) Remove 4 screws and 3 knobs. (See Figure-3)

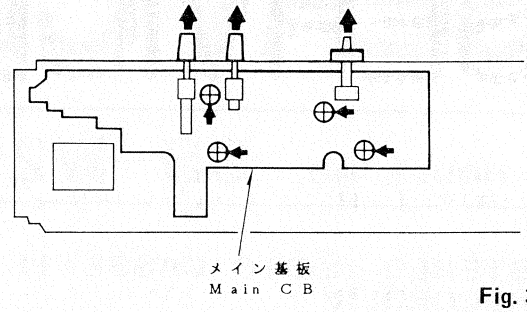


Fig. 3

Note) Cautions for Mechanism Reassembly
Prior to reassemble the mechanism, confirm the position of deck I/II select switch.

1) Ascertain that the switch lever is locked to the head of select switch.
2) Make sure that the switch lever tip is set into ⊨ shaped notch on the rear of play button. (See Figure-4)

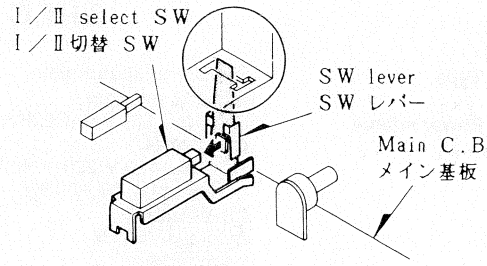
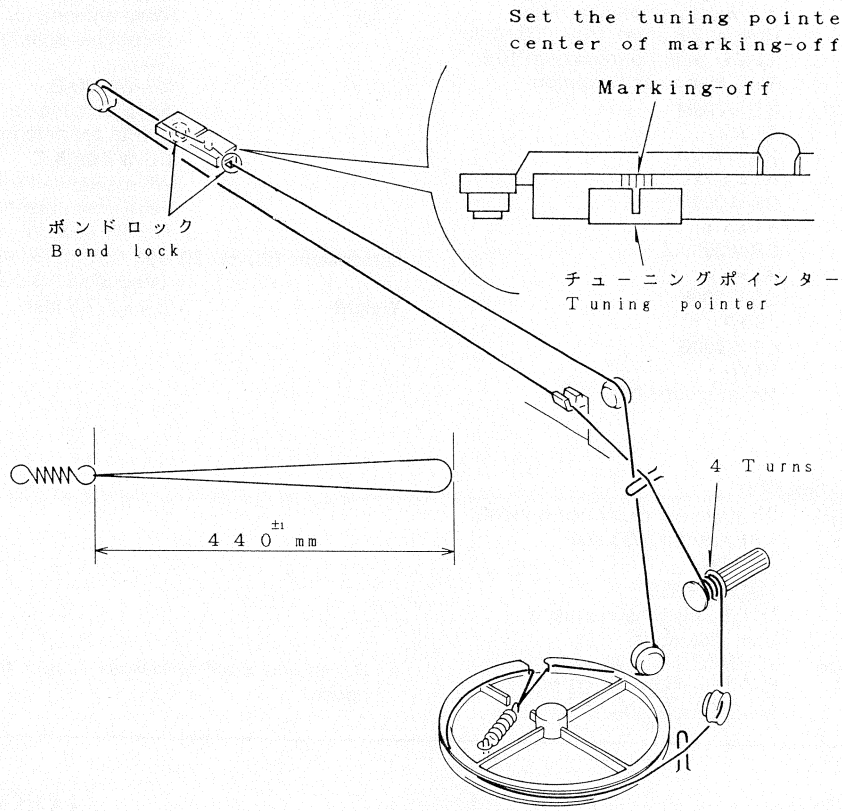


Fig. 4

DIAL CORD STRINGING



ELECTRICAL MAIN PARTS LIST

Ref. No.	Part No.	Description
=== IC ===		
	87-020-828	IC,BA3416 BL
	87-020-506	IC,BA4235L
	87-027-895	IC,M5218L
	87-020-557	IC,TA7233P
	87-020-446	IC,TA7343 AP
	87-020-356	IC,TA7358P
=== TRANSISTOR ===		
	89-110-155	TRANSISTOR,2SA1015(GR)
	89-309-455	TRANSISTOR,2SC945 PQ
	89-313-833	TRANSISTOR,2SC1383R
	89-319-233	TRANSISTOR,2SC1923(O)
	89-320-012	TRANSISTOR,2SC2001L
=== TUNER CIRCUIT BOARD SECTION ===		
PCB-A	81-544-628	TUNER CIRCUIT BOARD (H,E,K,G,Z ONLY)
PCB-A	81-544-629	TUNER CIRCUIT BOARD (U,C ONLY)
BPF1	* 87-030-105	FILTER BPMB 6A
C1	* 87-018-109	CAP,CERA-SOL SS 22P SL(H,U,C,G ONLY)
C1	* 87-018-110	CAP, CERA-SOL SS 24P (E,K,Z ONLY)
C2	* 87-018-133	CAP,CERA-SOL SS 4700P
C3	* 87-018-134	CAP,CERA-SOL SS 0.01
C4	* 87-018-097	CAP,CERA-SOL SS 2.2P
C5	* 87-018-104	CAP,CERA-SOL SS 10P
C6	* 87-018-134	CAP,CERA-SOL SS 0.01
C7	* 87-018-134	CAP,CERA-SOL SS 0.01
C8	* 87-018-134	CAP,CERA-SOL SS 0.01
C9	* 87-018-162	CAP,CERA-SOL SS 15P (U,C ONLY)
C10	* 87-018-151	CAP,CERA-SOL SS 20P CH (H,E,K,G,Z ONLY)
C11	* 87-018-141	CAP,CERA-SOL SS 3.3P CH
C12	* 87-018-134	CAP,CERA-SOL SS 0.01
C13	* 87-018-162	CAP,CERA-SOL SS 15P RH (H,G ONLY)
C13	* 87-018-109	CAP,CERA-SOL SS 22P SL (E,K,Z ONLY)
C13	* 87-018-106	CAP,CERA-SOL SS 15P PH (U,C ONLY)
C14	* 87-018-133	CAP,CERA-SOL SS 4700P
C15	* 87-018-134	CAP,CERA-SOL SS 0.01
C16	* 87-018-105	CAP,CERA-SOL 0.022Y
C17	* 87-018-105	CAP,CERA-SOL 0.022Y
C18	* 87-018-134	CAP,CERA-SOL SS 0.01
C21	* 87-018-104	CAP,CERA-SOL SS 10P (U,C ONLY)
C22	* 87-018-134	CAP,CERA-SOL SS 0.01
C23	* 87-018-119	CAP,CERA-SOL SS 100P
C34	* 87-018-123	CAP,CERA-SOL SS 220P (H,E,K,G,Z ONLY)
C37	* 87-018-106	CAP,CERA-SOL SS 15P (E,K,Z, ONLY)
C37	* 87-018-103	CAP,CERA-SOL SS 8.2P (H,G ONLY)
C38	* 87-018-103	CAP,CERA-SOL SS 8.2P (H,G ONLY)
C38	* 87-018-114	CAP,CERA-SOL SS 39P (E,K,Z ONLY)
C39	* 87-012-105	CAP,CERA-SOL SS 0.022 (U,C ONLY)
C39	* 87-018-131	CAP,CERA-SOL SS 1000P (E,K,Z ONLY)
C40	* 87-018-105	CAP,CERA-SOL 0.022Y
C41	* 87-018-134	CAP,CERA-SOL SS 0.01 (E,K,Z ONLY)
C42	* 87-018-174	CAP,CERA-SOL SS 18P UJ (H,G ONLY)
C42	* 87-018-176	CAP,CERA-SOL 22P UJ (E,K,Z ONLY)
C43	* 87-018-174	CAP,CERA-SOL SS 18P UJ (E,K,Z ONLY)
C44	* 87-014-045	CAP PP 330P (E,K,Z ONLY)
C44	* 87-014-061	CAP,PP 1500P (H,G ONLY)
C45	* 87-014-045	CAP,PP 330P (H,G ONLY)
C46	* 87-018-173	CAP,CERA-SOL SS 15P UJ (H,G ONLY)
C46	* 87-018-174	CAP,CERA-SOL SS 18P UJ (E,K,Z ONLY)
C47	* 87-018-179	CAP,CERA-SOL SS 30P UJ (E,K,Z ONLY)
C48	* 87-018-105	CAP,CERA-SOL 0.022Y (H,E,K,G,Z ONLY)
C49	* 87-018-106	CAP,CERA-SOL 15P (U,C ONLY)
C49	* 87-018-105	CAP,CERA-SOL 0.022Y (H,E,K,G,Z ONLY)
C50	* 87-018-115	CAP,CERA-SOL SS 47P (U,C ONLY)
C53	* 87-018-134	CAP,CERA-SOL SS 0.01(H,E,K,G,Z ONLY)
C54	* 87-018-107	CAP,CERA-SOL SS 18P (H,G ONLY)
C54	* 87-018-106	CAP,CERA-SOL SS 15P (E,K,Z ONLY)
C55	* 87-018-106	CAP,CERA-SOL SS 15P (H,G ONLY)
C55	* 87-018-111	CAP,CERA-SOL SS 27P (E,K,Z ONLY)
C56	* 87-018-107	CAP,CERA-SOL 18P (H,G ONLY)
C56	* 87-018-112	CAP,CERA-SOL SS 30P (E,K,Z ONLY)
C57	* 87-018-109	CAP,CERA-SOL SS 22P (H,E,K,G,Z ONLY)
CF1	* 87-008-261	FILTER SFE 10.7 MA5-A (H,G ONLY)
CF1	* 87-008-264	FILTER SFT 10.7 MS2-A (E,K,Z ONLY)
CF2	* 87-008-261	FILTER SFE 10.7 MA5-A (H,G ONLY)
CF2	* 87-008-264	FILTER SFT 10.7 MS2-A (E,K,Z ONLY)
CF3	* 87-008-310	FILTER CFMZ-468B
D1	87-017-044	DIODE VAR SD117
D2	* 87-020-110	DIODE 1SS177
D3	87-020-110	DIODE 1SS177 (H,E,K,G,Z ONLY)
D4	87-020-110	DIODE 1SS177 (U,C ONLY)
IFT1	* 87-008-292	IFT,FM PS
IFT2	* 87-008-293	IFT,FM (QUAD) PS
IFT3	* 87-008-311	IFT,AM-468
L1	* 87-006-084	COIL,RF FM
L2	* 87-007-162	COIL,OSC FM
L3	* 87-006-087	COIL,ANT SW2 PS (H,G ONLY)
L3	* 87-006-088	COIL,ANT SW (E,K,Z ONLY)
L4	87-007-213	COIL,OSC AM (U,C ONLY)
L5	87-003-118	COIL,CHOKE 0.27UH (U,C ONLY)
L6	* 87-007-157	COIL,OSC SW2 PS (H,G ONLY)
L6	* 87-007-156	COIL,OSC SW PS (E,K,Z ONLY)
L7	* 87-007-155	COIL,OSC SW1 PS (H,G ONLY)
L7	* 87-007-154	COIL,OSC MW PS (E,K,Z ONLY)
L8	* 87-007-154	COIL,OSC MW PS (H,G ONLY)
L8	* 87-007-187	COIL,OSC LW-ZX PS (E,K,Z ONLY)
L9	* 87-003-118	COIL,0.27UH (H,E,K,G,Z ONLY)
L10	* 87-005-165	COIL,1UH (TAPG) (H,E,K,G,Z ONLY)
S1	* 81-546-621	ROTARY SW 2-6-4 (BAND)
SFR1	* 87-021-741	SFR 4.7K
TC1	* 87-011-167	PVC 335-20P (H,E,K,G,Z ONLY)
TC2	+++	PVC 335-20P
TC3	+++	PVC 335-20P
TC4	+++	PVC 335-20P
VC1	+++	PVC 335-20P
VC2	+++	PVC 335-20P
VC3	+++	PVC 335-20P
VC4	+++	PVC 335-20P
TC1	* 87-011-171	PVC TRA LESS-20P (U,C ONLY)
TC2	+++	PVC TRA LESS-20P
TC3	+++	PVC TRA LESS-20P
TC4	+++	PVC TRA LESS-20P
VC1	+++	PVC TRA LESS-20P
VC2	+++	PVC TRA LESS-20P
VC3	+++	PVC TRA LESS-20P
VC4	* +++	PVC TRA LESS-20P
TC5	* 87-011-155	CAP,CERAMIC TRIMMER 10P (H,G ONLY)
TC5	* 87-011-164	CAP,CERAMIC TRIMMER 30P (E,K,Z ONLY)
TC6	* 87-011-154	CAP,CERAMIC TRIMMER 6P(H,E,K,G,Z ONLY)
TC7	* 87-011-154	CAP,CERAMIC TRIMMER 6P (H,G ONLY)
TC7	* 87-011-155	CAP,CERAMIC TRIMMER 10P (E,K,Z ONLY)
TC8	* 87-011-155	CAP,CERAMIC TRIMMER 10P (H,G ONLY)
TC8	* 87-011-164	CAP,CERAMIC TRIMMER 30P (E,K,Z ONLY)
=== MAIN CIRCUIT BOARD SECTION ===		
PCB-B	*	MAIN CIRCUIT BOARD
C1	* 87-018-041	CAP,CERA-SOL 560P
C2	* 87-018-041	CAP,CERA-SOL 560P
C3	* 87-018-038	CAP,CERA-SOL 330P
C4	* 87-018-038	CAP,CERA-SOL 330P
C5	* 87-018-044	CAP,CERA-SOL 1000P
C6	* 87-018-044	CAP,CERA-SOL 1000P
C29	* 87-018-040	CAP,CERA-SOL 470P
C30	* 87-018-040	CAP,CERA-SOL 470P
C34	* 87-010-112	CAP,ELECT 100-16V
C37	* 87-010-376	CAP,ELECT 2200MF 10V
C38	* 87-010-376	CAP,ELECT 2200MF 10V
C41	* 87-018-195	CAP,CERA-SOL SS 1200P
C42	* 87-018-195	CAP,CERA-SOL SS 1200P
C43	* 87-018-040	CAP,CERA-SOL 470P
C44	* 87-018-040	CAP,CERA-SOL 470P
C53	* 87-018-038	CAP,CERA-SOL 330P
C54	* 87-018-038	CAP,CERA-SOL 330P
C61	* 87-018-044	CAP,CERA-SOL 1000P
C62	* 87-010-112	CAP,ELECT 100-16V
C65	* 87-018-047	CAP,CERA-SOL 0.01MF
C67	* 87-018-137	CAP,CERA-SOL S 3300P
C68	* 87-018-047	CAP,CERA-SOL 0.01MF
C71	* 87-018-047	CAP,CERA-SOL 0.01MF
C72	* 87-010-235	CAP,ELECT 470-16
C73	* 87-018-047	CAP,CERA-SOL 0.01MF
C74	* 87-010-371	CAP,ELECT 470-6.3V
C75	* 87-010-248	CAP,ELECT 220-10V
C76	* 87-018-047	CAP,CERA-SOL 0.01MF
C77	* 87-010-248	CAP,ELECT 220-10V
C78	* 87-018-047	CAP,CERA-SOL 0.01MF
C79	* 87-018-047	CAP,CERA-SOL 0.01MF
C99	* 87-018-040	CAP,CERA-SOL 470P
D1	87-027-134	DIODE IS2473
D2	87-027-134	DIODE IS2473
D3	87-027-134	DIODE IS2473
D4	87-027-134	DIODE IS2473
D5	87-027-134	DIODE IS2473
D6	87-027-134	DIODE IS2473
D7	87-027-225	DIODE,ZENER 05Z5.1Y
J2	87-049-333	JACK 3.5 (HEADPHONE)
L1	* 81-544-611	COIL OSC BIAS
⚠R81	* 87-029-108	RES,FUSIBLE (STR) 1/2W 1
⚠R86	* 87-025-332	RES,NONFLAM 1/4W 10
SFR1	87-021-986	SFR 680 B
S1	81-569-621	LEVER SW (FUNCTION) (U,C ONLY)
S1	81-569-622	LEVER SW (FUNCTION) (EXCEPT U,C)
S2	81-569-611	SLIDE SW (REC/PB)
S3	87-036-045	LEVER SW (TAPE SELECTOR/FM MODE/OSC)
S4	87-031-974	PUSH SW (DECK SELECTOR)
S5	87-031-964	LEAF SW (NORMAL/HIGH)
VOL1	87-024-031	VOLUME 50KA (VOLUME)
=== POWER CIRCUIT BOARD SECTION ===		
⚠PCB-C	*	POWER CIRCUIT BOARD (H ONLY)
⚠PCB-C	*	POWER CIRCUIT BOARD (U,C ONLY)
⚠PCB-C	*	POWER CIRCUIT BOARD (E,K,G,Z ONLY)
C101	* 87-018-047	CAP,CERA-SOL 0.01MF
C102	* 87-018-047	CAP,CERA-SOL 0.01MF
C103	* 87-018-047	CAP,CERA-SOL 0.01MF
C104	* 87-018-047	CAP,CERA-SOL 0.01MF
C105	* 87-010-262	CAP,ELECT 3300-16V SME
D101	82-596-799	DIODE 1N4002
D102	82-596-799	DIODE 1N4002
D103	82-596-799	DIODE 1N4002
D104	82-596-799	DIODE 1N4002
⚠J1	87-049-783	JACK AC D (AC) (H,U,C ONLY)
⚠J1	87-049-784	JACK AC D (AC) (E,K,G,Z ONLY)
⚠PT1	* 81-569-623	POWER TRANSFORMER H (H ONLY)
⚠PT1	* 81-569-624	POWER TRANSFORMER U (U,C ONLY)
⚠PT1	* 81-569-625	POWER TRANSFORMER E (E,K,G,Z ONLY)
⚠S9	87-031-780	SLIDE SW (AC VOLTAGE) (H ONLY)
=== LED CIRCUIT BOARD SECTON ===		
PCB-D	*	LED CIRCUIT BOARD
D201	* 81-569-620	LED LN-29 RPL-S (OPERATE/BATTERY)
=== G.E.Q CIRCUIT BOARD SECTION ===		
	81-573-621	G-EQ UNIT 3 BAND (W/PCB-E)
=== MISCELLANEOUS ===		
ECM	* 87-041-049	ECM (MIC)
EH	87-046-285	HEAD MG (EMH-EA60)
L3	* 81-546-605	BAR ANT AM 4 PS (U,C ONLY)
L4	* 81-544-645	BAR ANT MW-SW1-H (H,G ONLY)
L5	+++	BAR ANT MW-SW1-H (H,G ONLY)
L4	81-546-629	BAR ANT LW-MW (ZX) (E,K,Z ONLY)
L5	+++	BAR ANT LW-MW (ZX) (E,K,Z ONLY)
M1	SE-G50-0YD-9BA	MOTOR- EG-500 YD-9BA
PH	87-046-280	PH (DECK1)
RPH	87-046-279	RPH (DECK2)
S7	SM-SW1-541-CVO	LEAF SW (DECK1 MOTOR,PLAY)
S8	SM-SW1-541-CVO	LEAF SW (DECK2 MOTOR,PLAY)
SP1	81-557-784	SPEAKER W (AIWA)
SP2	81-557-784	SPEAKER W (AIWA)

Combination circuit board A 81-569-626 (H ONLY)

PCB-B	**81-569-627**
PCB-C	**81-569-628**
PCB-D	**81-569-629**

Combination circuit board B 81-569-630 (E, K, G, Z ONLY)

PCB-B	**81-569-631**
PCB-C	**81-569-632**
PCB-D	**81-569-633**

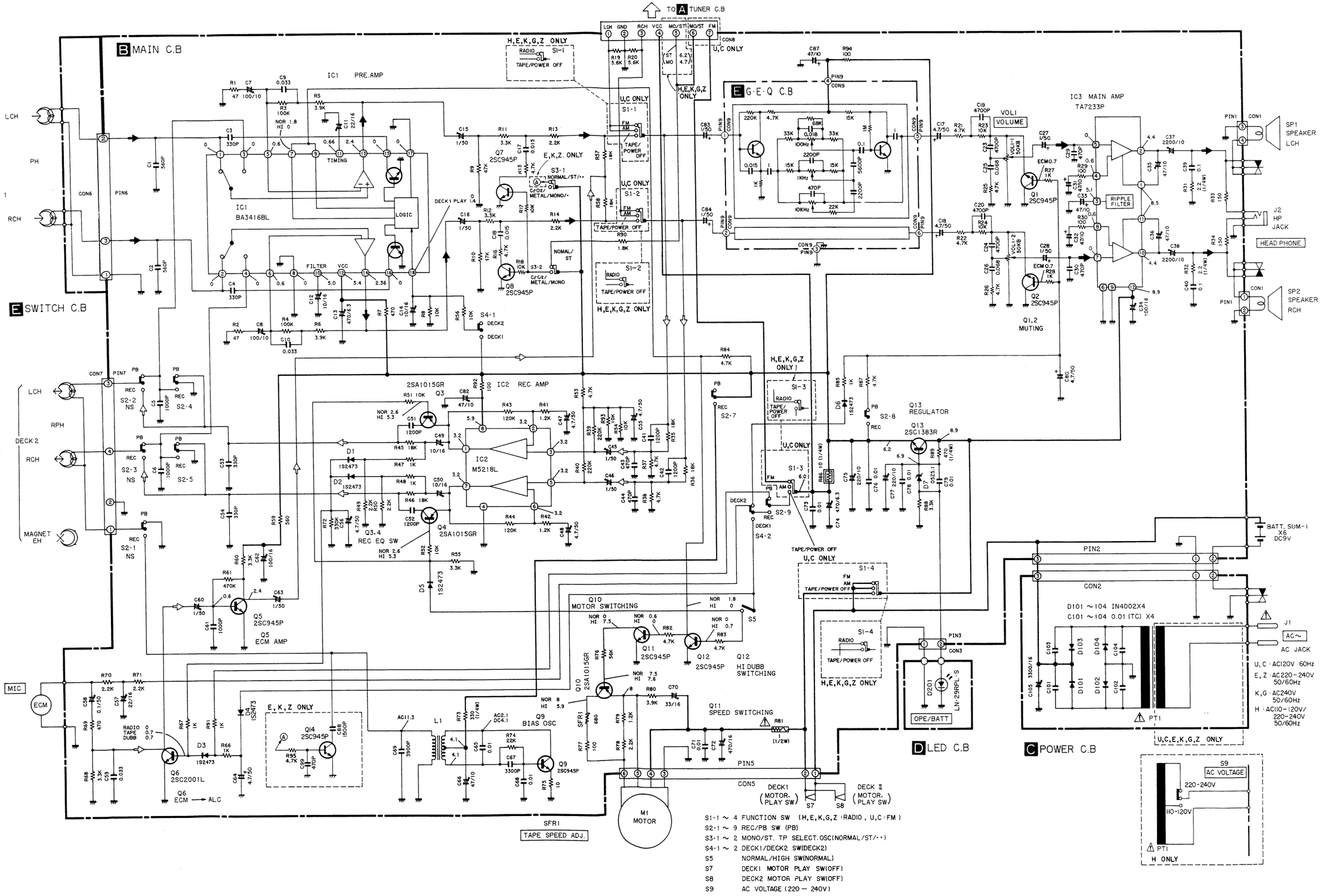
Combination circuit board C 81-569-634 (U, C ONLY)

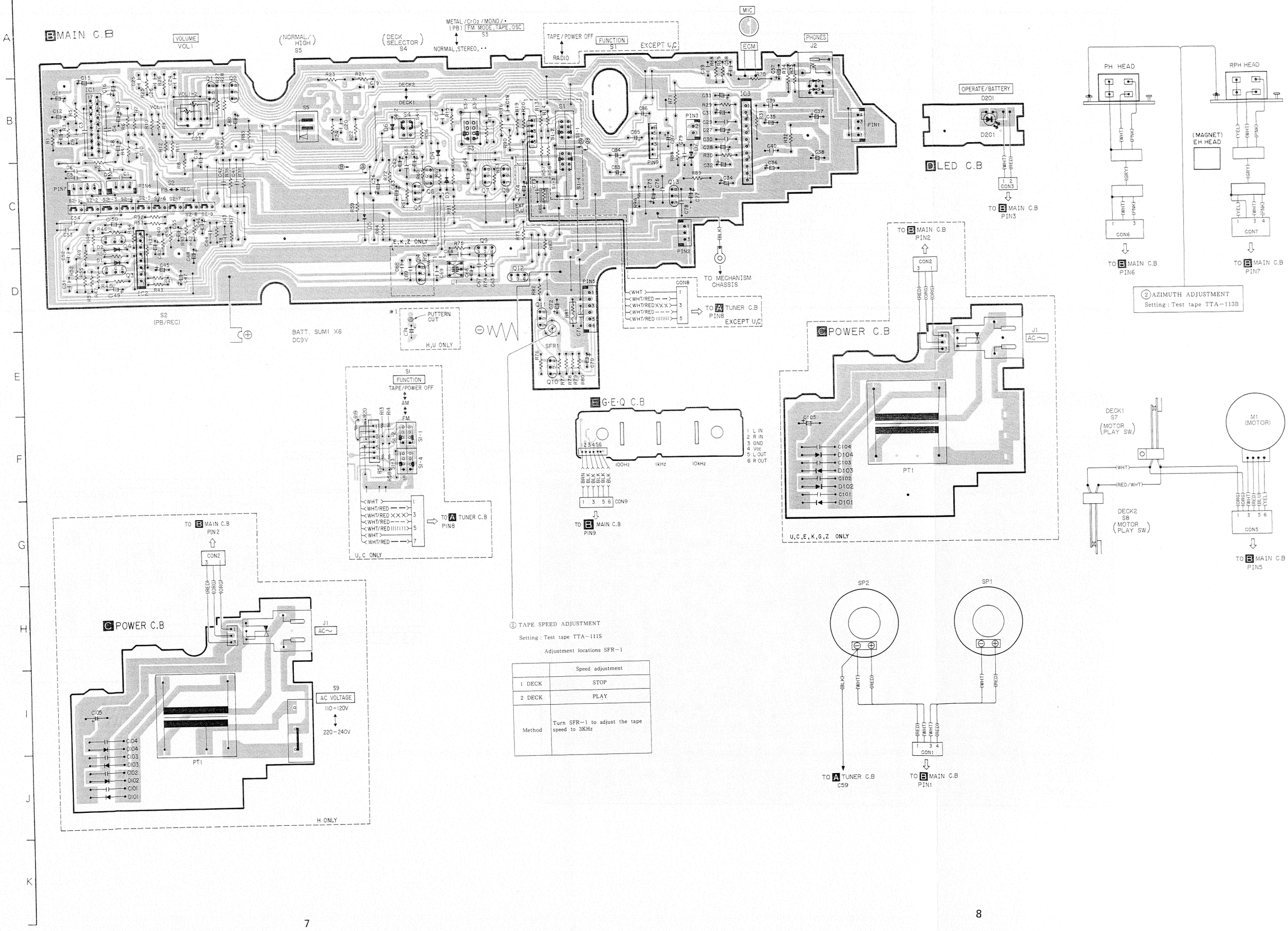
PCB-B	**81-569-635**
PCB-C	**81-569-636**
PCB-D	**81-569-637**

2SA1015
2SC945
2SC1923
2SC2001

2SC1383

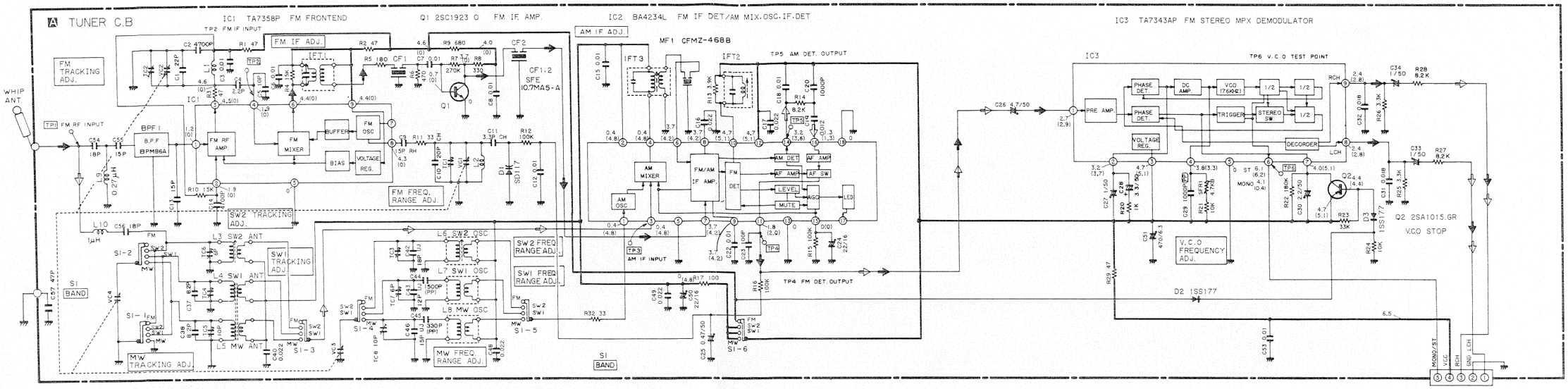
SCHEMATIC DIAGRAM-1 (H、U、C、E、K、G、Z)

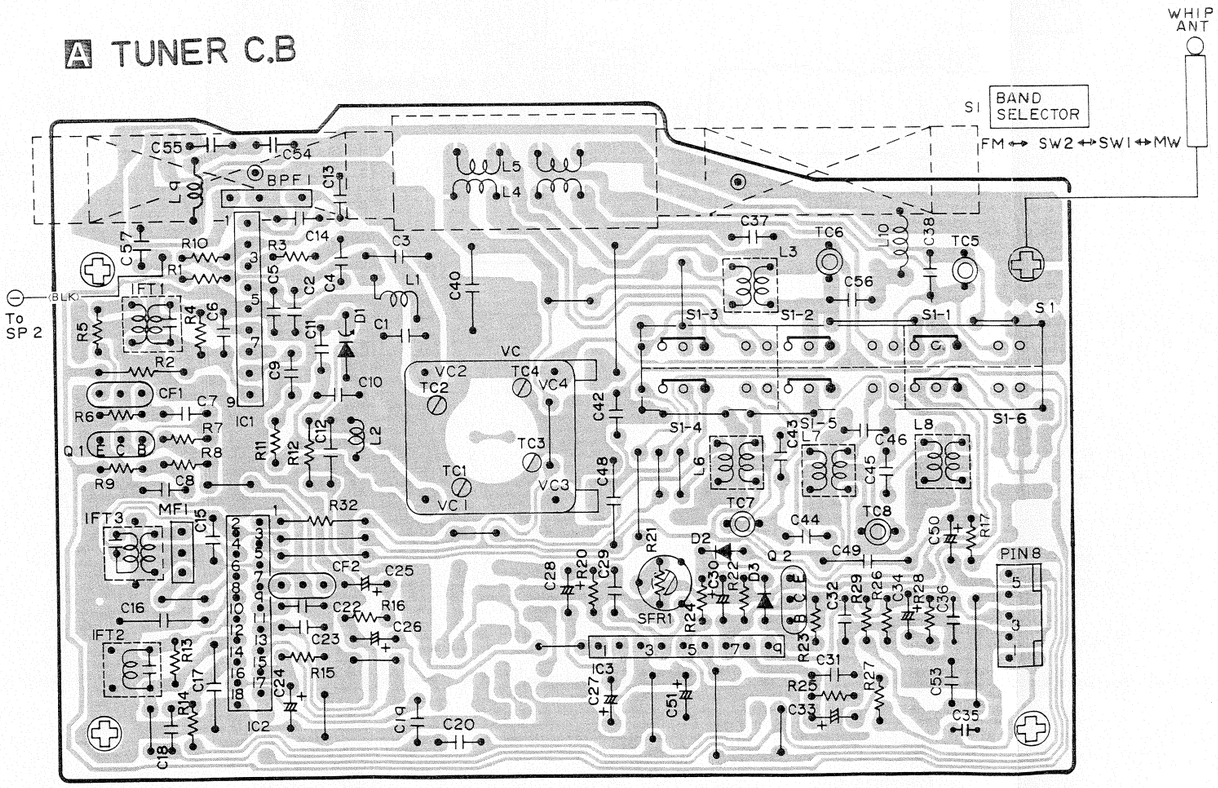


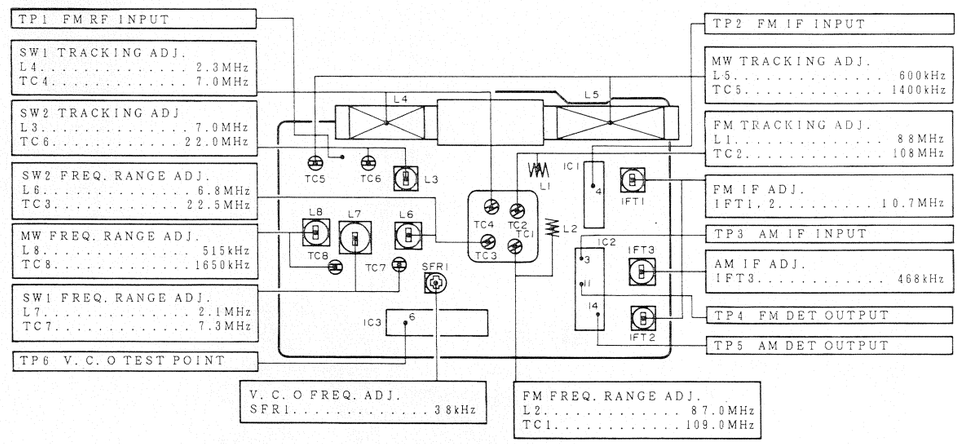


	Speed adjustment
1 DECK	STOP
2 DECK	PLAY
Method	Turn SFR-1 to adjust the tape speed to 3KHz

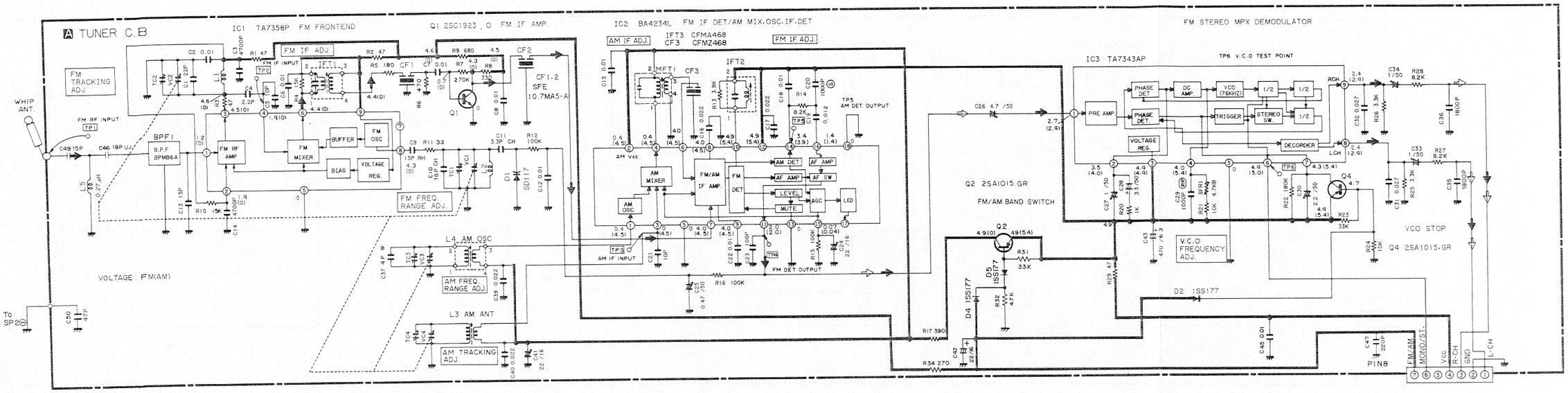
SCHEMATIC DIAGRAM-2 WIRING-2 (H, G)

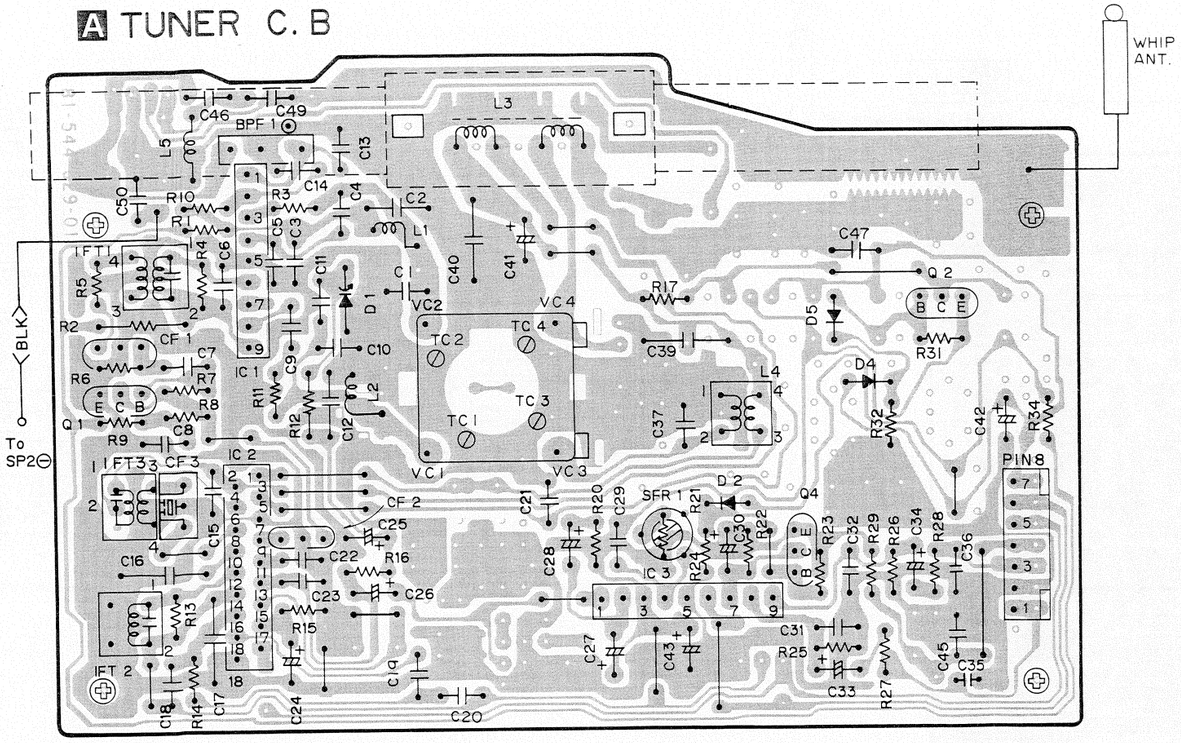


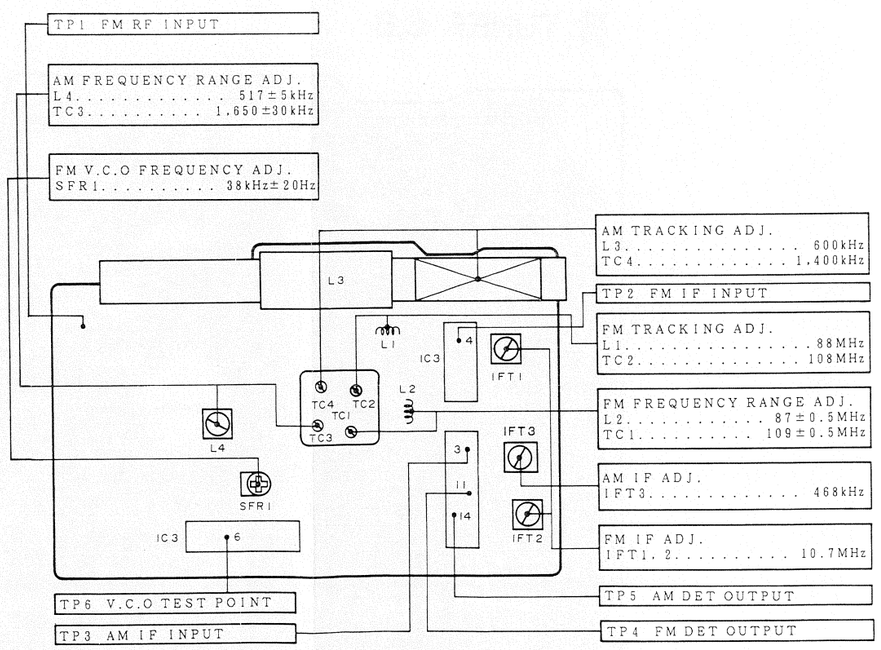



TP1 FM RF INPUT
SW1 TRACKING ADJ.
L4 . . . . . 2.3MHz
TC4 . . . . . 7.0MHz
SW2 TRACKING ADJ
L3 . . . . . 7.0MHz
TC6 . . . . . 22.0MHz
SW2 FREQ. RANGE ADJ.
L6 . . . . . 6.8MHz
TC3 . . . . . 22.5MHz
MW FREQ. RANGE ADJ.
L8 . . . . . 515kHz
TC8 . . . . . 1650kHz
SW1 FREQ. RANGE ADJ.
L7 . . . . . 2.1MHz
TC7 . . . . . 7.3MHz
TP6 V. C. O TEST POINT
V. C. O FREQ. ADJ.
SFR1 . . . . . 38kHz
FM FREQ. RANGE ADJ.
L2 . . . . . 87.0MHz
TC1 . . . . . 109.0MHz
TP2 FM IF INPUT
MW TRACKING ADJ.
L5 . . . . . 600kHz
TC5 . . . . . 1400kHz
FM TRACKING ADJ.
L1 . . . . . 88MHz
TC2 . . . . . 108MHz
FM IF ADJ.
IFT1, 2 . . . . . 10.7MHz
TP3 AM IF INPUT
AM IF ADJ.
IFT3 . . . . . 468kHz
TP4 FM DET OUTPUT
TP5 AM DET OUTPUT

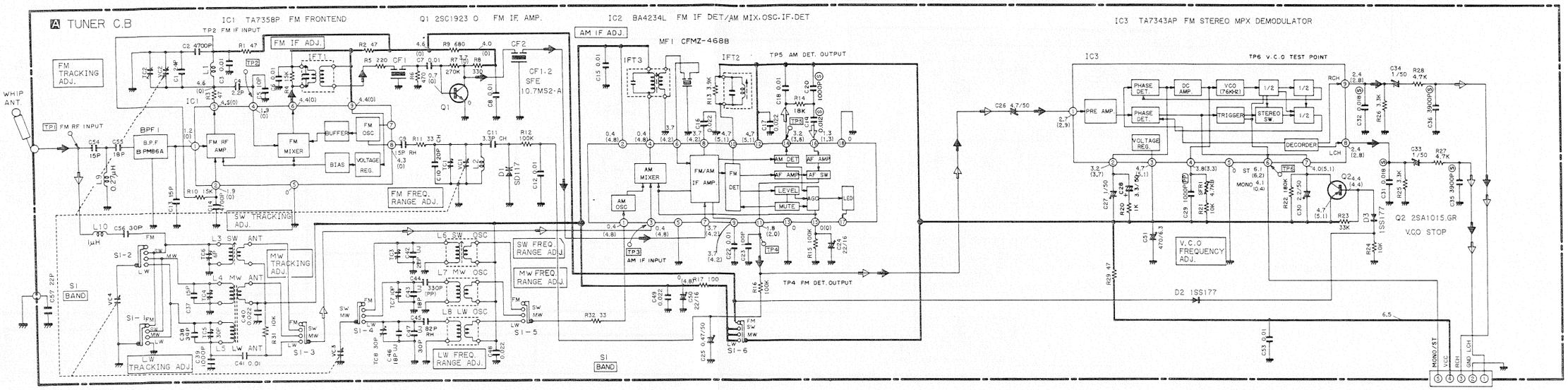
SCHEMATIC DIAGRAM-3 WIRING-3 (U, C)

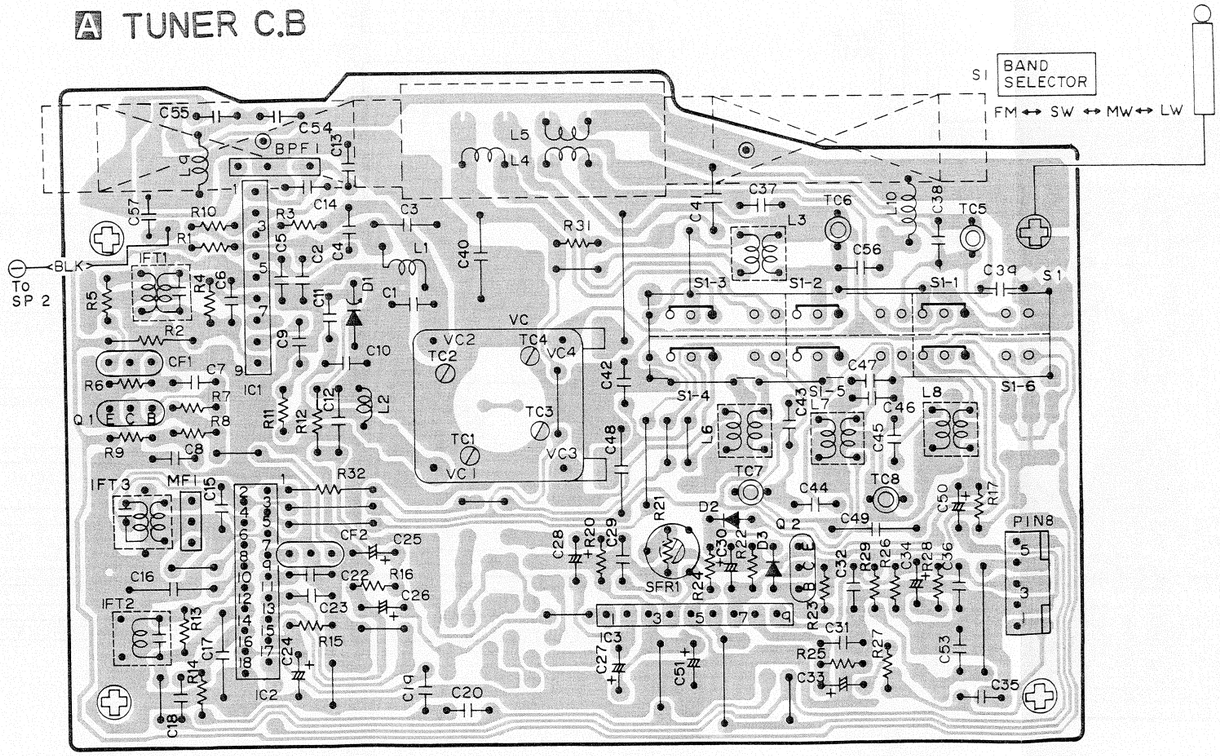


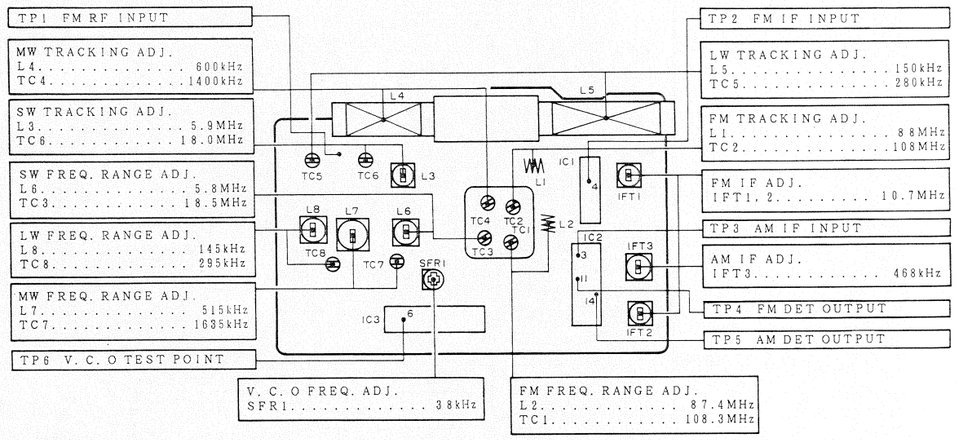




SCHEMATIC DIAGRAM-4 WIRING-4 (E, K, Z)






TP1 FM RF INPUT
TP2 FM IF INPUT
MW TRACKING ADJ.
L4 . . . . . 600kHz
TC4 . . . . . 1400kHz
LW TRACKING ADJ.
L5 . . . . . 150kHz
TC5 . . . . . 280kHz
SW TRACKING ADJ.
L3 . . . . . 5.9MHz
TC6 . . . . . 18.0MHz
FM TRACKING ADJ.
L1 . . . . . 88MHz
TC2 . . . . . 108MHz
SW FREQ. RANGE ADJ.
L6 . . . . . 5.8MHz
TC3 . . . . . 18.5MHz
FM IF ADJ.
IFT1, 2 . . . . . 10.7MHz
LW FREQ. RANGE ADJ.
L8 . . . . . 145kHz
TC8 . . . . . 295kHz
TP3 AM IF INPUT
AM IF ADJ.
IFT3 . . . . . 468kHz
MW FREQ. RANGE ADJ.
L7 . . . . . 515kHz
TC7 . . . . . 1635kHz
TP4 FM DET OUTPUT
TP5 AM DET OUTPUT
TP6 V. C. O TEST POINT
V. C. O FREQ. ADJ.
SFR1 . . . . . 38kHz
FM FREQ. RANGE ADJ.
L2 . . . . . 87.4MHz
TC1 . . . . . 108.3MHz

Practical Service Figure

<RADIO SECTION>

	H. G Models	
Sensitivity:	FM	Less than 22dB (at 100MHz)
(IHF. THD 3%) (S/N 10dB)	SW_2	Less than 28dB (at 14.0MHz)
(S/N 10dB)	SW_1	Less than 42dB) (at 4.0MHz)
(S/N 10dB)	MW	Less than 48dB) (at 1000kHz)
	U. C Models	
(IHF. THD 3%) (S/N 10dB)	FM	Less than 22dB (at 100MHz)
	AM	42±4dB) (at 1000KHz)
	E. K. Z Models	
(IHF. THD 3%)	FM	Less than 22dB) (at 100MHZ)
(S/N 10dB)	SW	Less than 26dB) (at 12.0MHz)
(S/N 10dB)	MW	Less than 46dB (at 1000KHz)
(S/N 10dB)	LW	Less than 52dB) (at 200kHz)
Intermediate frequency:	FM	10.7MHz
	AM	468kHz
FM stereo separation:	More than 21dB	

<TAPE RECORDER SECTION>

Record bias frequency:	61±0.5kHz
Erasing ratio:	More than 52dB
Distortion:	Less than 3% (at PB)
	Less than 8% (at REC/PB)
Signal noise ratio:	More than 36dB (at DC/AC. PB)
	More than 24dB (at AC/DC, REC/PB)
Noise Level:	Less than 20mV (DC MAX)
	Less than 25mV (AC MAX)
Wow and Flutter:	Less than 0.38% (RMS), during Deck 1, 2 driving
	Less than 0.6% (RMS), during Deck 1 or 2 driving
Take up torque:	30～60g - cm
FF & rewind torque:	Deck 1, 2 50～120g · cm
Back tension:	2～5g - cm

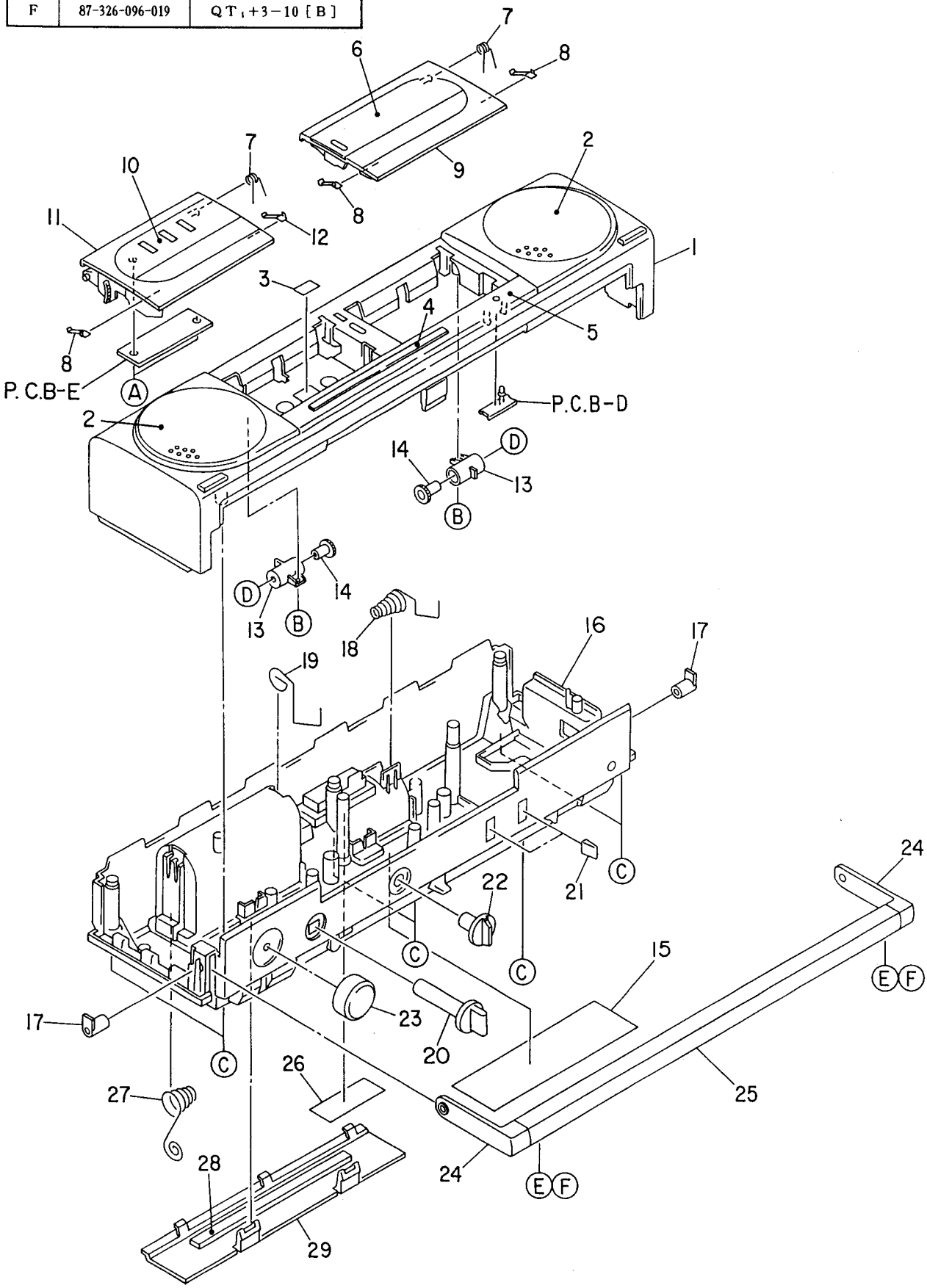
■ACCESSORIES/PACKAGE LIST

■ Order and supply source of service parts.
Distinction at the last digit of the code number:
80-000-000-009 to Singapore
-000 to Japan

PART NO. CHANGED TO.	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★81-569-904-019	INSTRUCTION BOOKLET(H) (H.U.C.G only)	*	1
	2	★81-569-905-019	INSTRUCTION BOOKLET(E) (E.K.Z only)	*	1
	3	★87-034-751-019	AC CORD(H) (H only)		1
	4	★87-034-750-019	AC CORD Ass'y U(U.C only)		1
	5	★87-034-755-010	AC CORDSET Ass'y(E.K.Z only)		1
	6	★81-504-967-019	AC CORD AS(G only)		1
	7	★87-049-137-019	PLUG SIEMENS (H ONLY)		1

EXPLODED VIEW-1

REF. NO.	PART NO.	DESCRIPTION
A	87-511-072-219	VFT₁+2.6-5
B	87-341-096-219	UT₁+3-10
C	87-351-101-219	VT₁+3-18
D	87-342-033-219	UT₂+2-4
E	87-329-096-019	QT₁+3-10
F	87-326-096-019	QT₁+3-10 [B]



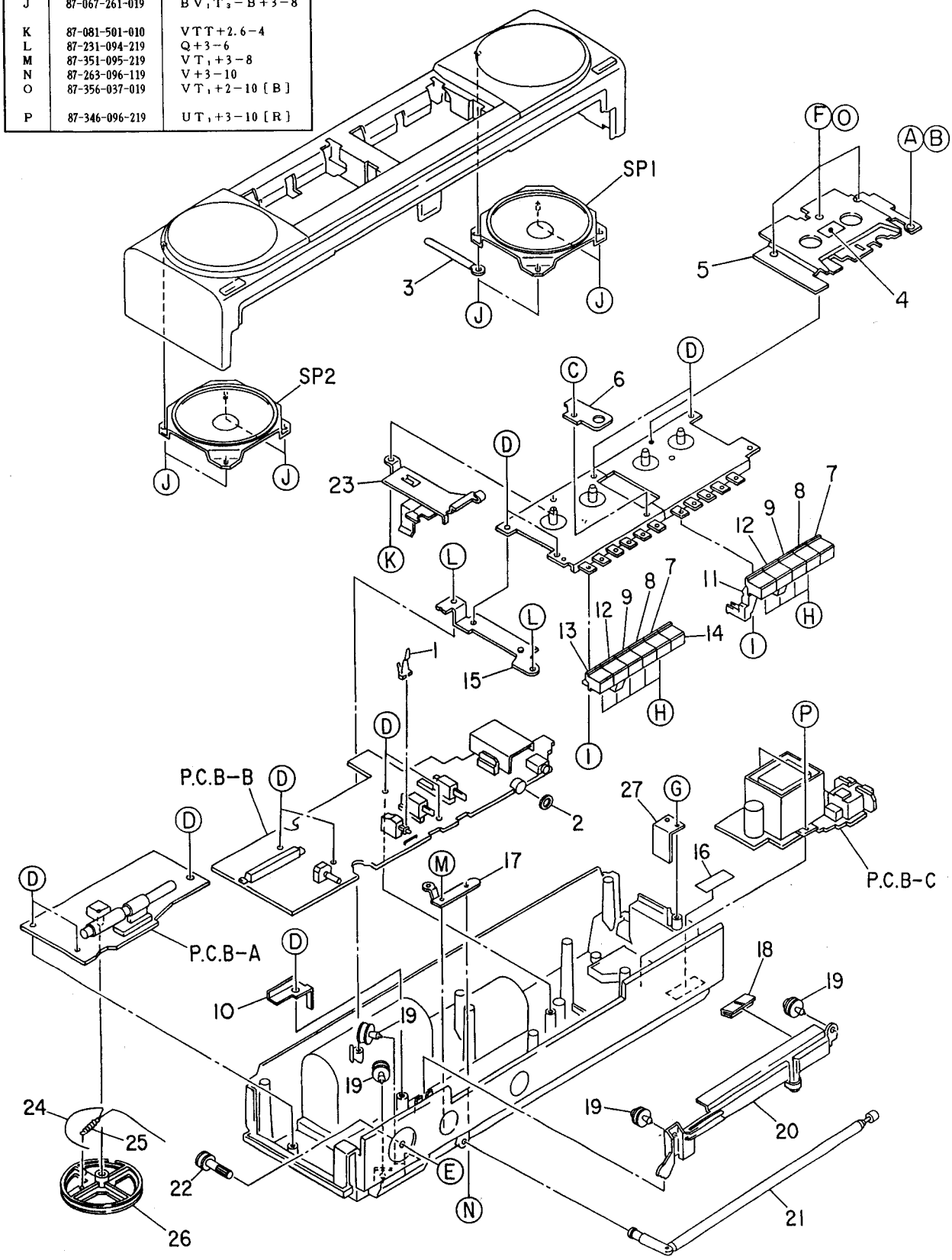
MECHANICAL PARTS LIST

■ Order and supply source of service parts.
Distinction at the last digit of the code number:
80-000-000-009 to Singapore
-000 to Japan

PART NO. CHANGED TO.	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★81-569-001-219	CABINET, FRONT [B]	*	1
	1-1	★81-569-079-019	CABINET, FRONT [S]	*	1
	1-1	★81-569-080-019	CABINET, FRONT [WR]	*	1
	1-2	★81-569-006-019	GRILLE, SPEAKER [B]	*	2
	1-2	★81-569-006-019	GRILLE, SPEAKER [S,WR]	*	2
	1-3	---	LABEL, CASSETTE COMPARTMENT		1
	1-4	81-516-008-019	WINDOW, TUNING	CS-J250	1
	1-5	★81-569-043-019	PANEL, DIAL [B] (H only)	*	1
	1-5	★81-569-049-019	PANEL, DIAL [B] (C only)	*	1
	1-5	★81-569-046-019	PANEL, DIAL [B] (E, K, G, Z only)	*	1
	1-5	★81-569-044-019	PANEL, DIAL [S] (H only)	*	1
	1-5	★81-569-047-019	PANEL, DIAL [S] (G, Z only)	*	1
	1-5	★81-569-076-019	PANEL, DIAL [WR] (H only)	*	1
	1-5	★81-569-078-019	PANEL, DIAL [WR] (U only)	*	1
	1-5	★81-569-077-019	PANEL, DIAL [WR] (E, Z)	*	1
	1-6	81-569-046-019	WINDOW, CASSETTE L	*	1
	1-7	★81-569-205-119	T-SPRING, CASSETTE BOX	*	2
	1-8	★81-533-287-010	P-SPRING, CASSETTE SUPPORT	CA-W50	3
	1-9	81-569-004-019	BOX, CASSETTE L	*	1
	1-10	81-569-063-019	WINDOW, CASSETTE R	*	1
	1-11	81-569-003-019	BOX, CASSETTE R	*	1
	1-12	★81-556-245-010	P-SPRING, CASSETTE HOLDER A	CS-W660	1
	1-13	★81-546-211-110	HOLDER OIL-DAMP Ass'y	CS-230	2
	1-14	81-546-210-010	GEAR, OIL-DAMP	CS-230	2
	1-15	---	SPEC. PLATE	*	1
	1-16	★81-569-036-019	REAR CABINET Ass'y [B] (H only)	*	1
	1-16	★81-569-052-019	REAR CABINET Ass'y [B] (C only)	*	1
	1-16	★81-569-042-019	REAR CABINET Ass'y [B] (E, K, G, Z only)	*	1
	1-16	★81-569-053-019	REAR CABINET Ass'y [S] (H only)	*	1
	1-16	★81-569-054-019	REAR CABINET Ass'y [S] (G, Z only)	*	1
	1-16	★81-569-059-019	REAR CABINET Ass'y [WR] (H only)	*	1
	1-16	★81-569-061-019	REAR CABINET Ass'y [WR] (U only)	*	1
	1-16	★81-569-060-019	REAR CABINET Ass'y [WR] (E, Z only)	*	1
	1-17	★81-573-216-119	FASTENER, HANDLE	CS-W700	2
	1-18	★81-557-213-019	SPRING N, BATTERY	CS-W220	1
	1-19	★81-557-212-119	SPRING P, BATTERY	CS-W220	1
	1-20	81-557-029-019	KNOB, SELECTOR [B,WR] (EXCEPT U,C)	CS-W220	1
	1-20	81-569-085-019	KNOB, SELECTOR [S] (EXCEPT U,C)	*	1
	1-21	81-557-038-019	KNOB, TOGGLE [B,WR]	CS-W220	2
	1-21	81-569-028-019	KNOB, TOGGLE [S]	*	2
	1-22	81-557-039-019	KNOB, VOLUME [B,WR]	CS-W220	1
	1-22	81-569-027-010	KNOB, VOLUME [S]	*	1
	1-23	81-546-060-019	KNOB, TUNING	CS-230	1
	1-24	★81-569-029-010	ARM, HANDLE	*	2
	1-25	★81-569-020-019	GRIP, HANDLE [B]	*	1
	1-25	★81-569-087-019	GRIP, HANDLE [S]	*	1
	1-25	★81-569-088-019	GRIP, HANDLE [WR]	*	1
	1-26	---	BRIND PLATE A		1
	1-27	★81-504-577-119	SPRING C, BATTERY		1
	1-28	---	CUSHION M, BATTERY		1
	1-29	81-557-045-019	LID, BATTERY [B]	CS-W220	1
	1-29	81-569-089-019	LID, BATTERY [S]	*	1
	1-29	81-557-061-019	LID, BATTERY [WR]	*	1

EXPLODED VIEW-2

REF. NO.	PART NO.	DESCRIPTION
A	81-356-035-019	VT,+2-6 [B]
B	87-359-035-019	VT,+2-6
C	87-081-521-010	VTT+2.6-5
D	87-356-096-219	VT,+3-10 [R]
E	81-534-228-010	PW5.2-10.4-0.4
F	87-359-037-019	VT,+2-10
G	87-321-096-219	QT,+3-10
H	81-557-598-019	UTT+2-5
I	87-067-286-019	VTT+2-5 [B]
J	87-067-261-019	BV,T$_3$-B+3-8
K	87-081-501-010	VTT+2.6-4
L	87-231-094-219	Q+3-6
M	87-351-095-219	VT,+3-8
N	87-263-096-119	V+3-10
O	87-356-037-019	VT,+2-10 [B]
P	87-346-096-219	UT,+3-10 [R]



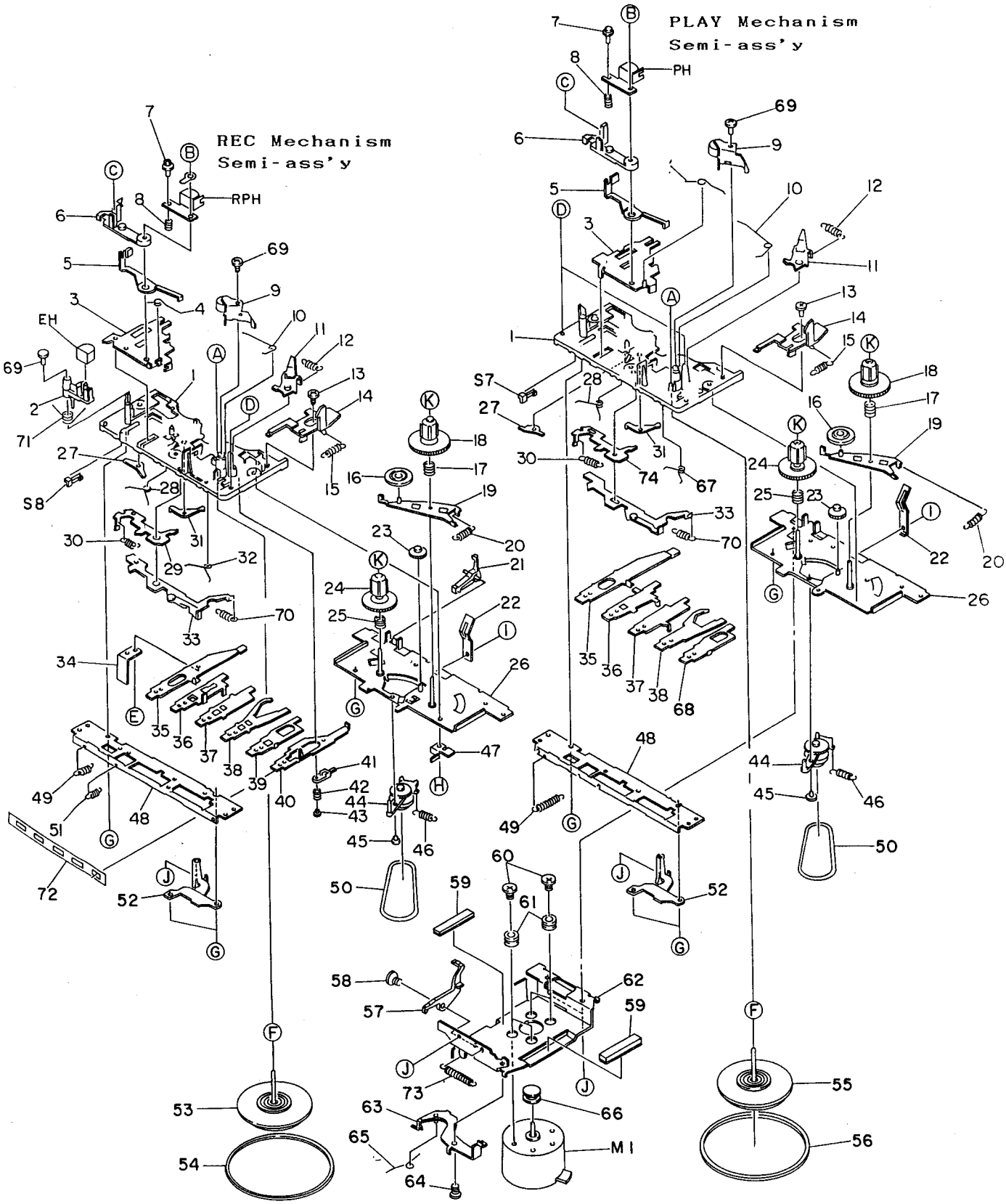
■ Order and supply source of service parts.
Distinction at the last digit of the code number:
80-000-000-009 to Singapore
-000 to Japan

PART NO. CHANGED TO.	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★81-557-221-110	LEVER, A/B SW	CS-W220	1
	2-2	---	S CUSHION 4-10-1		1
	2-3	---	WIRE BINDER		1
	2-4	---	LABEL, CASSETTE COMPARTMENT		1
	2-5	★81-569-082-019	COVER, CASSETTE [B]	*	1
	2-5	★81-569-083-019	COVER, CASSETTE [S]	*	1
	2-5	★81-569-084-019	COVER, CASSETTE [WR]	*	1
	2-6	★81-569-216-019	HOLDER, M A	*	1
	2-7	★81-557-034-019	PUSH-KEY, STOP	CS-W220	2
	2-8	★81-557-032-019	PUSH-KEY, REW	CS-W220	2
	2-9	★81-557-031-019	PUSH-KEY, FF	CS-W220	2
	2-10	★81-571-208-019	HOLDER, TU		1
	2-11	★81-557-036-019	PUSH-KEY, W	CS-W220	1
	2-12	★81-557-030-019	PUSH-KEY, PLAY	CS-W220	2
	2-13	★81-557-035-019	PUSH-KEY, REC	CS-W220	1
	2-14	★81-569-081-019	PUSH-KEY, PAUSE N	*	1
	2-15	★81-569-204-019	HOLDER, M	*	1
	2-16	---	CUSHION G		1
	2-17	★81-557-211-019	TERMINAL SS ANT	CS-W220	1
	2-18	81-546-030-119	POINTER, TUNING	CS-230	1
	2-19	★87-071-019-010	ROLLER φ7 DIAL		4
	2-20	★81-569-201-019	CHASSIS, DIAL	*	1
	2-21	★87-043-087-019	WHIP ANTENNA		1
	2-22	★81-546-208-119	SHAFT, TUNING	CS-230	1
	2-23	★81-569-202-119	HOLDER REC Ass'y	*	1
	2-24	★87-096-045-019	STRING DIAL 0.3MM		1
	2-25	★81-556-244-019	E-SPRING, DIAL	CS-W660	1
	2-26	★81-546-201-119	DRUM DIAL 100	CS-230	1
	2-27	★81-569-217-019	HOLDER, AC	*	1

EXPLODED VIEW-3

REF. NO.	PART NO.	DESCRIPTION
A	84-405-276-010	PW1.55×3.8×0.5
B	84-405-273-010	⊕ ⊖ SCREW M2×7
C	84-405-271-010	V+2−6
D	81-557-285-010	CAMERA SCREW M2×6
E	S9-076-000-000	VS+2−3
F	S9-999-000-000	PW2.05×4×0.5

REF. NO.	PART NO.	DESCRIPTION
G	84-405-278-010	UT₁+2−5
H	81-504-260-010	P TAPPING SCREW M2×6
I	86-522-336-010	C TAPPING SCREW M2×5
J	81-504-254-010	C TAPPING SCREW M2×4
K	86-518-286-010	PW1.2×3×0.4



■ Order and supply source of service parts.
Distinction at the last digit of the code number:
80-000-000-009 to Singapore
-000 to Japan

PART NO. CHANGED TO.	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	★86-527-220-010	MAIN BASE Ass'y		2
	3-2	★84-405-246-010	MG ARM		1
	3-3	★86-527-211-010	HEAD PANEL		2
	3-4	★86-528-235-010	PINCH ROLLER SPRING		2
	3-5	★S1-821-033-010	DETECTION PLATE Ass'y		2
	3-6	★84-405-243-010	HEAD BASE		2
	3-7	★84-405-274-010	AZIMUTH SCREW M2×7		2
	3-8	★86-521-245-010	AZIMUTH SPRING		2
	3-9	★81-557-267-010	PINCH ROLLER ARM Ass'y	CS-W220	2
	3-10	★81-557-266-010	HEAD PANEL SPRING(S)	CS-W220	2
	3-11	★81-557-260-010	AUTO LEVER	CS-W220	2
	3-12	★86-521-238-010	AUTO LEVER SPRING		2
	3-13	★86-521-270-010	P.M.E. SCREW		2
	3-14	★84-405-266-010	EJECT SLIDE LEVER		2
	3-15	★86-521-269-010	EJECT SLIDE LEVER SPRING		2
	3-16	S1-821-103-4A0	T.ROLLER GEAR		2
	3-17	★81-557-279-010	BACK TENSION SPRING	CS-W220	2
	3-18	S1-821-103-190	TAKE-UP REEL PLATFORM Ass'y		2
	3-19	★S1-821-105-200	TAKE-UP GEAR PLATE Ass'y		2
	3-20	★86-521-256-010	T.G.PLATE SPRING		2
	3-21	★S1-821-106-900	REC SAFETY LEVER		1
	3-22	★86-521-262-010	PACK SPRING		2
	3-23	S1-821-103-500	FF GEAR		2
	3-24	81-557-277-010	SUPPLY REEL PLATFORM Ass'y	CS-W220	2
	3-25	★S1-821-106-400	BACK TENSION SPRING		2
	3-26	★S1-821-105-040	REEL BASE Ass'y		2
	3-27	★86-521-234-010	P.R.STOPPER		2
	3-28	★81-557-261-010	BUTTON LEVER SPRING(G)	CS-W220	2
	3-29	★S1-821-010-500	SWITCH ACTUATING PLATE		1
	3-30	★84-405-247-010	SPRING, ACTUATING PLATE SWITCH		2
	3-31	★S1-821-016-800	REW LEVER		2
	3-32	★86-521-232-010	BUTTON LEVER SPRING(C)		1
	3-33	★S1-821-015-070	PUSH-BUTTON ACTUATING PLATE Ass'y		2
	3-34	★81-504-201-010	REC SPRING PLATE		1
	3-35	★81-557-251-010	REC BUTTON LEVER	CS-W220	2
	3-36	★86-527-205-010	PLAY BUTTON LEVER		2
	3-37	★81-557-253-010	REW BUTTON LEVER	CS-W220	2
	3-38	★81-557-254-010	FF BUTTON LEVER	CS-W220	2
	3-39	★S1-821-011-560	STOP BUTTON LEVER		1
	3-40	★81-557-256-010	PAUSE BUTTON LEVER Ass'y	CS-W220	1
	3-41	★81-557-258-010	PAUSE LEVER	CS-W220	1
	3-42	★86-521-230-010	PAUSE LEVER SPRING		1
	3-43	★86-521-231-010	PAUSE STOPPER		1
	3-44	★S1-821-073-170	RF CLUTCH Ass'y		2
	3-45	★81-557-270-010	RF ARM COLLAR SCREW	CS-W220	2

■ Order and supply source of service parts.
Distinction at the last digit of the code number:
80-000-000-009 to Singapore
-000 to Japan

PART NO. CHANGED TO.	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-46	★S1-821-071-000	RF PULLEY ARM SPRING		2
	3-47	★S1-821-123-400	PAUSE PROTECTION BRACKET		1
	3-48	★S1-821-391-600	SUB PLATE		2
	3-49	★86-521-235-010	BUTTON LEVER SPRING(A)		2
	3-50	S1-821-071-100	RF BELT		2
	3-51	★81-557-262-010	PLAY BUTTON LEVER SPRING(S)	CS-W220	1
	3-52	★S1-821-391-900	METAL FITTING GUIDE		2
	3-53	★S1-821-093-050	FLYWHEEL Ass'y		1
	3-54	S1-821-121-100	MAIN BELT		1
	3-55	★S1-821-093-060	FLYWHEEL Ass'y		1
	3-56	S1-821-121-410	M BELT		1
	3-57	★S1-821-121-500	SYNCHRONIZE ARM(C)		1
	3-58	★81-557-289-010	P.K. COLLAR SCREW(B)	CS-W220	1
	3-59	—	MAT		2
	3-60	★86-521-264-010	M COLLAR SCREW		2
	3-61	★81-533-388-010	MOTOR RUBBER	CA-W50	4
	3-62	★S1-821-121-440	MOTOR BRACKET		1
	3-63	★S1-821-125-030	SYNCHRONIZE ARM Ass'y		1
	3-64	★81-557-288-010	P.K. COLLAR SCREW(A)	CS-W220	1
	3-65	★S1-821-121-490	SYNCHRONIZE SPRING		1
	3-66	★S1-821-125-400	MOTOR PULLEY		1
	3-67	★84-405-238-010	BUTTON LEVER SPRING(F)		1
	3-68	★81-557-255-010	STOP.BUTTON LEVER	CS-W220	1
	3-69	★84-405-279-010	MS SCREW		3
	3-70	★86-521-236-010	ACTUATING PLATE SPRING		2
	3-71	★S1-821-031-700	M.G. ARM SPRING		1
	3-72	★86-527-203-010	PLATE		2
	3-73	★S1-821-017-600	PLAY BUTTON LEVER SPRING		1
	3-74	★81-557-291-010	SWITCH PLATE	CS-W220	1

Note When placing an order for service parts, always enter the parts code number up to the last numeral on the service parts ordering sheet.